

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P/63945/GPTX18	FOR FURTHER ACTION See Form PCT/PEA/416	
International application No. PCT/EP2004/052127	International filing date (day/month/year) 10.09.2004	Priority date (day/month/year) 11.09.2003
International Patent Classification (IPC) or national classification and IPC H04B10/17, H04B10/213		
Applicant MARCONI COMMUNICATIONS SPA		
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau) a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>		
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>		
Date of submission of the demand 11.07.2005	Date of completion of this report 09.11.2005	
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer Vaquero, R Telephone No. +31 70 340-	



**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/EP2004/052127

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-21 as originally filed

Claims, Numbers

1-20 as originally filed

Drawings, Sheets

1/8-8/8 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/EP2004/052127

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	8-17,19,20
	No: Claims	1-7,18
Inventive step (IS)	Yes: Claims	.
	No: Claims	1-20
Industrial applicability (IA)	Yes: Claims	1-20
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Re Item V.

- 1 The following documents are referred to in this communication:

D1 : SALEHEEN H I: "Closed cycle lasing of ASE noise in a WDM ring network"
TECHNICAL DIGEST. CLEO/PACIFIC RIM 2001. 4TH PACIFIC RIM
CONFERENCE ON LASERS AND ELECTRO-OPTICS, vol. 2, no. II, 15 July
2001 (2001-07-15), - 19 July 2001 (2001-07-19) pages 558-559,
XP002279117 Chiba, Japan
D2 : US 6 421 168 B1 (DUERKSEN GARY ET AL) 16 July 2002 (2002-07-16)
D3: EP-A-1 030 415 (NIPPON ELECTRIC CO) 23 August 2000 (2000-08-23)

2 INDEPENDENT CLAIM 1

- 2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

Document D1 discloses (the references in parenthesis applying to this document): looped WDM optical network comprising a plurality of nodes connected with a plurality of waveguides to form an optical loop (figure 1), the optical loop including optical amplifiers between sections of the loop (figure 1, EDFAs), and further including ASE recirculation in the loop which is used for gain control (page 1, column 1, paragraph 1), characterised in that at a point of the loop laser radiation is injected and allowed to circulate in the loop (page 2, column 1, paragraph 1) with the laser radiation being centered around a λ_{LINK} wavelength where it is desired that a lasing peak be generated (page 2, column 1, paragraphs 1-4).

3 INDEPENDENT CLAIM 18

- 3.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 18 is not new in the sense of Article 33(2) PCT.

Claim 18 describes a method comprising the steps corresponding to the technical features described in claim 1. Therefore, the same reasons given in relation to claim 1 concerning lack of novelty in the sense of Article 33(2) PCT apply also to claim 18.

4 DEPENDENT CLAIMS 2-17, 19, 20

4.1 Dependent claims 2-7 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty (Article 33(2) PCT), because all the features of said dependent claims are disclosed in document D1.

4.2 Dependent claims 8-17,19,20 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step (Article 33(3) PCT).

4.2.1 The features of dependent claims 8-11 have already been employed for the same purpose in a similar looped optical network, see document D2 (column 9, lines 1-14). It would therefore be obvious to the person skilled in the art, to apply these features with corresponding effect to a looped optical network according to document D1, thereby arriving at the network according to said claims.

4.2.2 The features of dependent claims 12-16 have already been employed for the same purpose in a similar looped optical network, see document D3 (paragraph 19, paragraph 28; paragraph 31; paragraph 36). It would therefore be obvious to the person skilled in the art, to apply these features with corresponding effect to a looped optical network according to document D1, thereby arriving at the network according to said claims.

4.2.3 The additional features of dependent 7,20 are merely one of several straight-forward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill, in order to solve the problem posed.